

## Remarks

**Unexpected Results:** The results achieved by the invention are new, unexpected, superior, unsuggested, unusual, critical, and surprising. This is because, due to the small size of portable scooters no one has thought that suspension systems were practical. This was due to the current thinking that most portable scooters need to weigh no more than 20lb to 30lb, which is about the limit for comfortably carrying a folded scooter. Conventional design would incorporate a swing arm, two shocks, a relocated motor in front of the swing arm, and a more substantial frame, all adding up to a much greater weight. This added weight would cause the scooter to be no longer portable. By dividing the frame and using only one shock and using the motor in its current position on the rear frame half much of the weight in incorporating suspension is eliminated.

**Assumed Unworkability:** Up to now those skilled in the art thought or were skeptical that the techniques used in the invention were unworkable or presented an insuperable barrier. Conventional design would dictate that to incorporate suspension would involve adding a great deal of weight to the final design. When in actuality a lighter portable scooter can be made by using a lighter pivoting frame to absorb frame over loads instead of a much heavier frame.

**Assumed Insolubility:** Up to now those skilled in the art though or found the problem solved by the invention was insoluble. The invention converts failure into success. The failures of prior-art workers indicate that a solution was not obvious. Portable motor scooters have been available for many years, up until the applicants invention no one has thought suspension could be practically incorporated in a small light weight vehicle with out greatly adding to the structure and weight.

**Commercial Success:** The invention has attained commercial success with the manufacturing company of Martin Manufacturing. This new invention has received acclaim and praise for it's innovation and design in its overall performance within the industry for which it was designed.

**Unrecognized Problem:** The problem solved by the invention was never before even recognized. The recognition of an unrecognized problem militates in favor of patentability, a lightweight portable scooter with suspension.

**Omission of Element:** An element of a prior-art device has been omitted or a prior-art version has been made simpler without loss of capability. Jacquart shows a scooter with 4

pivot points for frame movement. Stevenson shows two shocks. Applicant's invention uses only one pivot and one shock.

**Lack of Implementation:** If the invention were in fact obvious, because of its advantages, those skilled in the art surely would have implemented it by now. That is the fact that those skilled in the art have not implemented the invention, despite its great advantages, indicates that it is not obvious. It was not until the invention and manufacture of the applicant's design that competitors copied the new design.

**Solution of Long-Felt and Unsolved Need:** The invention solves a long-felt, long-existing, but unsolved need. That need, being a lightweight portable scooter with suspension.

**Copying by others:** Others have chosen to copy and implement the invention, rather than using the techniques of the prior art. Because, we did not license the idea two other companies copied it.

**Competitive Recognition:** an infringer has copied the invention. Moreover, the infringer has made laudatory statements about it and has admitted it is unobvious in publications and sales brochures.

**New Principle of Operation:** The invention utilizes a new principle of operation. Applicant has blazed a trail, rather than followed one. Up until now no one has thought to use a pivoting frame to accomplish suspension on lightweight portable scooters.

**Inability of Competitors:** Several competitors were unable to copy the invention until they were able to learn its details through a commercial model; this indicated unobviousness.

**Solved Different Problem:** Applicant's invention solves a different problem than the reference, and such different problem is recited in the claims. In re Wright, 6 USPQ 2d 1959 (1988). Solves a problem of incorporating suspension in a very lightweight portable scooter without significantly increasing the overall vehicle weight. There is no additional weight associated by incorporating suspension in the pivoting frame scooter the frame can be built lighter because frame over loads are taken up by the shock absorber between frame halves.

**No Convincing Reasoning:** The office action has listed in Stevenson "a platform 701 that supports a standing rider, this is not completely correct. Stevenson shows a running board 701 and gives a description of a running board for supporting the feet of a rider. Stevenson shows an entirely different scooter, which uses a seat incorporation into the frame construction of the scooter. The running board 701 is not intended for a rider to stand upon

and operate the scooter. The applicant's invention eliminates the seat element and simplified the frame. Further, Stevenson shows two shock absorbers 416, 418 which, connect the frame to swing arm. In applicant's invention, only one shock absorber has been used. Thus eliminating one element and improving and simplifying the design.

Jacquarts discloses a motor powered scooter with 4 pivots 9, 30, 27 and 38 to accomplish suspension. The applicant's invention simplifies the invention to one pivot. Also applicant uses a shock absorber where Jacquart uses a leaf spring with no damping which, results in no shock absorbing characteristics. The spring merely reverses the force input and directs it back resulting in little to no shock absorbing characteristics. An analogy would be in automobile with leaf spring but without shock absorbers. Jacquart would bounce and oscillate when encountering road irregularity resulting in a less controllable vehicle. The office action has erred in stating that Jacquart shows a shock absorbing means 13. Jacquart merely shows a spring that is not a shock-absorbing device. A spring in this application merely reverses a load input – the spring is compressed in one direction then the stored energy in the spring releases in the opposite direction with the same force. Efficient suspension involves shock absorption, which requires damping to the return travel of the spring movement. As is described in the applicant's design. Also the examiner has disclosed Jacquart as having a main structural element 3 disposed substantially horizontal along a longitudinal axis and supports the front steered wheel at the forward end thereof, a shock absorbing means 13 operationally connecting a second frame half 7 separated by a pivot 9; a motor 17 operatively connected to the rear driven wheel which drives the driven wheel; a head tube 37 formed about a substantially vertical axis to the longitudinal axis, the head tube fastened at the forward end of the main structural element. The main structural element stops at the connection of the moveable fork and the frame is connected to one head tube at point 38 and the subframe 26 is connected to the lower head tube 25 at point 27 this shows Jacquart as having two head tubes 37 and 25 Applicant design simplifies the design by utilizing one head tube element eliminating one element.

**Conclusion:** Applicants Invention as claimed distinguishes over Stevenson and Jacquart with novel physical features. These features include pivoting the frame about one point and using a single shock absorbing means to connect the frame halves. Applicant requests reconsideration of the rejection and allowance of the new claims. Therefore Applicant submits that all claims are allowable over the cited references and respectfully solicits reconsideration and allowance.